

AMPHIBIA: CAUDATA: PLETHODONTIDAE

Bolitoglossa yucatanana

Catalogue of American Amphibians and Reptiles.

Dundee, H.A. and J.S. Scheibe. 2000. *Bolitoglossa yucatanana*.

***Bolitoglossa yucatanana* (Peters)**
Yucatán Salamander

Spelerpus [sic] (*Oedipus*) *yucatanus* Peters 1882:137. Type locality, not known, bought from dealer in Paris and stated as "Habitatio: Yucatan." Holotype, Zoologisches Museum Berlin (ZMB) 10231 (not examined by authors).

Spelerpes yucatanicus: Boulenger 1882:72. See **Remarks**.

Spelerpes punctatum: Brocchi 1882.

Oedipus yucatanicus: Cope 1887:8.

Spelerpes yucatanus: Günther 1902:303.

Oedipus yucatanicus: Dunn 1918:471.

Oedipus yucatanus: Dunn 1924:100.

Bolitoglossa yucatanana: Taylor 1944:219. First use of currently recognized name.

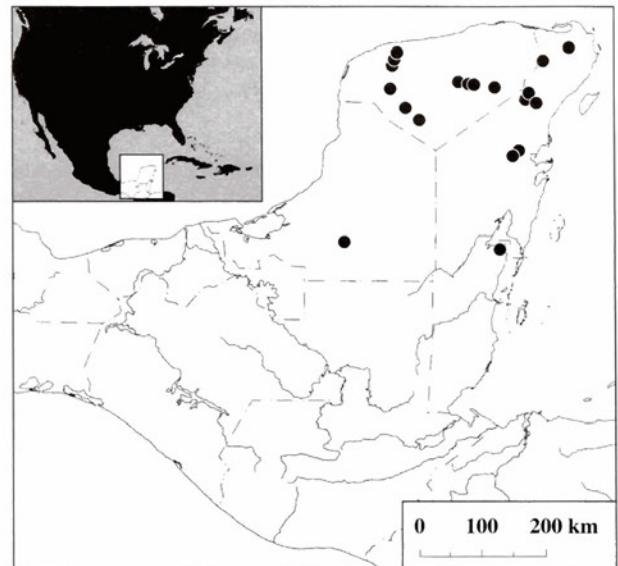
Bolitoglossa mexicana mexicana: Duellman 1965:586.

• **CONTENT.** No subspecies are currently recognized.

• **DEFINITION.** Much of this definition is adapted from Lee (1996), but our perusal of the literature indicates that parts of his description are questionable. Lee (1996) delimited costal grooves to 13 between axilla and groin, vomerine teeth (=parasphenoid or paravomerine) in patches and not touching medially, tail and body length approximately equal, and his color description does not cover the range reported elsewhere (see **Descriptions**).

This is a medium sized, somewhat attenuate *Bolitoglossa* reaching a TL of 129 mm and SVL of 66 mm. Adults average 53 mm SVL, and tail and body are approximately the same length according to Lee (1996). However, SVL is approximately 59% of TL in an immature specimen reported by Dundee et al. (1986). Dunn (1926) listed a young MCZ specimen that had a SVL 68% of TL, and the largest specimen known had a SVL 45% of TL. Günther (1902) listed a specimen of 125 TL, with the body length being 58% (method of determining SVL not stated). A comparison of male and female proportions is not available, but allometric growth is likely in the species. The tail is sometimes swollen with fat, apparently an adaptation for prolonged dry seasons (Wake and Lynch 1976). Males have cirri and a mental gland. Costal grooves number 11–13, with 3–5 intercostal spaces between adpressed limbs (but see **Remarks**).

The fingers and toes are completely webbed. The paravomerine teeth are arranged in patches. Boulenger (1882)



MAP. Dots depict the known localities; the type locality is unknown (modified and reprinted from Julian C. Lee: *The Amphibians and Reptiles of the Yucatán Peninsula*. Copyright © 1996 by Cornell University. Used by permission of the publisher, Cornell University Press).

indicated that palatine teeth (apparently his term for paravomerine teeth) meet medially. The specimen on which Dundee et al. (1986) reported has the prevomerine teeth in linear arrangement and almost touching medially, and the paravomerine teeth appear to be in a continuous group. Duellman (1965) stated that vomerine teeth (= prevomerine) number 7–9, suggesting that the teeth were in linear arrangement.

The dorsal color is variable, being blueblack (Peters 1882), brownish black (Duellman (1963), gray, brown, or reddish brown with irregular mottling of cream or tan, and with the lighter pigment in some individuals forming indistinct dorsolateral stripes that arise at the head and fade posteriorly. A dark brownish, elongate triangular or squarish patch is present between the eyes. Laterally, these salamanders usually are dark brown. The venter of throat and body is brown, brownish black, or tan, and may have numerous white or other flecks.

• **DIAGNOSIS.** *Bolitoglossa yucatanana* is considered to be a member of the *B. dofleini* group by Wake and Lynch (1976). Wake (1966a) assigned the species to tribe Bolitoglossinae,



FIGURE. Adult *Bolitoglossa yucatanana* from 14.6 km SE Cobá, Quintana Roo, México (reprinted from Julian C. Lee: *The Amphibians and Reptiles of the Yucatán Peninsula*. Copyright © 1996 by Cornell University. Used by permission of the publisher, Cornell University Press).

super-genus *Bolitoglossa*. The only other species with an overlapping range is *B. mexicana*, which is known from two isolated localities in northern Quintana Roo. *Bolitoglossa mexicana* has paravomerine teeth in a continuous series, whereas *B. yucatanana* tends to have the series disrupted medially. Also, the dorsum of *B. mexicana* is more likely to be reddish brown or red-orange in color.

• **DESCRIPTIONS.** The most recent description is by Lee (1996). As stated above, it differs from other descriptions by delimiting costal grooves to 13, vomerine teeth in patches, and in color description. The original description by Peters (1882) stated color as bluish black above, and Boulenger (1882) stated that the dorsum is brownish black. Other descriptions are in Brocchi (1882), Duellman (1965), and Dunn (1926), who indicated that vomerine teeth are in patches.

• **ILLUSTRATIONS.** Lee (1996) included a color photo, the only known published photo of the species.

• **DISTRIBUTION.** The species ranges through northern Yucatán and Quintana Roo states of México. In addition, a single record is known from south central Campeche state in México, and two specimens from extreme northern Belize. Confusion about the systematics of the species resulted in some erroneous records for Guatemala.

This animal is usually found in the vicinity of caves or cenotes, but also in thorn forest and tropical evergreen forest; Wake (1987) also mentioned finding the species in bromeliads. These salamanders are very tolerant of dry conditions; one specimen (BWMC 1309) was collected under an old railroad tie embedded in dust in a parking lot at the archaeological site at Chichen Itzá. All records are below 500 m elevation.

• **FOSSIL RECORD.** None.

• **PERTINENT LITERATURE.** References are listed by topic: **bionumeric code** (Brame et al. 1978), **checklists** (Brame 1957, 1967; Flores-Villela 1993; Frost 1985; Gorham 1973; Harding 1983; Smith and Taylor 1948; Villa et al. 1988), **common names** (Lee 1996, Liner 1994, Sokolov 1988), **distribution** (Lee 1996), **ecogeography** (Barrera 1962 [1963]; Flores-Villela and Gerez Fernández 1988; Lee 1977, 1980, 1996), **eggs** (Barbour and Cole 1906), **food habits** (Tucker, in litt., *vide* Lee 1996), **general summary** (Lee 1996), **habitat** (Duellman 1965, Dundee et al. 1986, Dunn 1926, Reddell 1981, Taylor 1951, Wake 1987), **keys** (Dunn 1924, Smith and Taylor 1948), **locomotion** (Wake and Brame 1969), **reproduction** (Barbour and Cole 1906, McDiarmid and Worthington 1970), **synonyms** (Smith and Smith 1976), **systematic relationships** (Dunn 1926; Duellman 1965; Stuart 1943; Tanner 1963; Taylor 1951, 1952; Wake and Brame 1969; Wake and Lynch 1976), **tail autotomy** (Wake and Dressner 1967), and **teeth** (Dunn 1926, Lee 1996, Peters 1882, Wake 1966b, Wake and Brame 1966).

• **REMARKS.** Zoological Record (19:26) indicates that *Speleperpes yucatanus* of Peters and *S. yucatanicus* of Boulenger are identical, but Peters apparently had a few days priority.

Duellman (1965) stated 11 costal grooves and called the specimen *Bolitoglossa m. mexicana*, but that species does not occur in the Yucatán from where his specimen came. He subsequently noted (pers. comm.) that he was unable to effectively count the grooves in the specimen. Dundee et al. (1986) stated that 12 costal grooves are present. A reexamination of this specimen, whose costal grooves are hard to discern, showed 13 grooves, counting one in the axilla and one in the groin. Julian Lee (pers. comm.) indicated that two specimens at the University of Mi-

ami showed counts of 11 and 12, and that these counts included one each in groin and axilla. Boulenger (1882) gave 12 costal grooves, Günther (1902) also stated 12 costal grooves, and Jimmy McGuire (pers. comm.) reported a count of 12 on a specimen in the Louisiana State University collection. David Wake (pers. comm.) stated that all tropical salamanders except *Oedipina* have 14 trunk vertebrae and that any costal groove counts of less than 12 are questionable, and x-rays of the vertebrae would be desirable to confirm if fewer than 12 trunk vertebrae is correct. Apparently much of the difficulty in counting costal grooves lies in what interpretation is made at the axilla and groin.

• **ETYMOLOGY.** The specific epithet *yucatanana* refers to the geographic area, the Peninsula de Yucatán, in which the species occurs.

• **COMMENTS.** In view of the discrepancies of costal groove count, coloration, and possible vomerine teeth arrangement, a closer study is apparently needed to ascertain if a cryptic species may have been classified as *B. yucatanana*.

A number of older literature statements gave varying assertions as to which species *Bolitoglossa yucatanana* might be related. Also, because of the uncertainty of recognition, some Guatemalan specimens were assigned to *B. yucatanana*. Given the variation in color, costal groove count, and vomerine teeth arrangement, the relationships to *B. mexicana* appears to need closer examination—but David Wake (pers. comm.) indicated that *B. yucatanana* and *B. mexicana* are markedly distinct based on molecular evidence. Julian Lee (pers. comm.) noted that he has a photograph by Randy McCranie from the Yucatán that looks intermediate between *B. yucatanana* and *B. mexicana*, but the specimen, Louisiana State University 28297, has been deaccessioned as “lost.”

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